

December 17, 2019

U.S Army Corps of Engineers
1835 Assembly Street, Room 865B-1
Columbia, SC 29201

Subject: Request for Jurisdictional Determination and NWP 44 Verification **SECI#: 01-18-062**
Vulcan Materials – Fairfield County Property
Fairfield County, South Carolina

Sligh Environmental Consultants, Inc. (SECI) is pleased to submit the attached information requesting a Jurisdictional Determination and authorization under Nationwide Permit 44 for the Fairfield County Property which is a proposed project site for Vulcan Materials. The project area is located east of I-77, south of State Rd SC S-20-41, approximately 6 miles southeast of Winnsboro, South Carolina. The preliminary wetland delineation was completed by SECI in August 2019 using methods outlined in the *Corps of Engineers Wetlands Delineation Manual*¹.

Attached is a "Request for Jurisdictional Determination" form, an exhibit depicting the delineated wetlands and streams, GIS maps of the project site, and data sheets representing typical site conditions. The soils in the upland areas exhibit matrix chroma and values common to upland sites. The soils in the wetlands exhibit properties common to hydric areas including low matrix chroma and values and redoxomorphic features. Jurisdictional area boundaries were delineated based on regional indicators, vegetative differences, and topographic rise from wetland to upland areas.

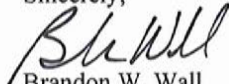
In addition to the JD for the property, the applicant is also requesting authorization under Nationwide Permit 44 for construction of a new granite mine. The materials mined at the site will be sold for use in various construction projects throughout the region. Specifically, the proposed facilities consist of a quarry, overburden storage area, plant and processing area, shop, office, and access road from State Rd SC S-20-41. Proposed impacts include 0.3437 acre of wetland fill and 124 linear feet (0.0816 acre) of stream piping for an access road.

The permit application includes:

- Joint Federal and State Application Form
- Project Description
- Permit Exhibit
- SOP Worksheets
- Ipac Print-out

Please review this information to verify the accuracy of SECI's preliminary wetland delineation. If you have any questions upon your review, or if you wish to schedule a site visit, please contact us at (912) 232-0451.

Sincerely,



Brandon W. Wall
Project Biologist
Sligh Environmental Consultants, Inc.

Mr. John Aultman – Vulcan Materials Company

¹ Environmental Laboratory. 1987. "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1, US Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

Joint Federal and State Application Form For Activities Affecting Waters of the United States Or Critical Areas of the State of South Carolina		This Space for Official Use Only Application No. _____ Date Received _____ Project Manager _____ Watershed # _____	
<i>Authorities:</i> 33 USC 401, 33 USC 403, 33 USC 407, 33 USC 408, 33 USC 1341, 33 USC 1344, 33 USC 1413 and Section 48-39-10 et. Seq of the South Carolina Code of Laws. These laws require permits for activities in, or affecting, navigable waters of the United States, the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters. The Corps of Engineers and the State of South Carolina have established a joint application process for activities requiring both Federal and State review or approval. Under this joint process, you may use this form, together with the required drawings and supporting information, to apply for both the Federal and/or State permit(s).			
<i>Drawings and Supplemental Information Requirements:</i> In addition to the information on this form, you must submit a set of drawings and, in some cases, additional information. A completed application form together with all required drawings and supplemental information is required before an application can be considered complete. See the attached instruction sheets for details regarding these requirements. You may attach additional sheets if necessary to provide complete information.			
1. Applicant Last Name: Aultman		11. Agent Last Name (agent is not required): Wall	
2. Applicant First Name: John		12. Agent First Name: Brandon	
3. Applicant Company Name: Vulcan Construction Materials, LLC		13. Agent Company Name: Sligh Environmental Consultants, Inc.	
4. Applicant Mailing Address: 201 Brown Road		14. Agent Mailing Address: 31 Park of Commerce Way, Suite 200B	
5. Applicant City: Piedmont		15. Agent City: Savannah	
6. Applicant State: South Carolina	7. Applicant Zip: 29673	16. Agent State: Georgia	17. Agent Zip: 31405
8. Applicant Area Code and Phone No.: (864) 299-4785		18. Agent Area Code and Phone No.: 912-232-0451	
9. Applicant Fax No.: (864) 299-0610		19. Agent Fax No.: 912-232-0543	
10. Applicant E-mail: aultmanj@vmcmail.com		20. Agent E-mail: b_wall@slighec.com	
21. Project Name: Fairfield County Property		22. Project Street Address: SC Highway 77 / State Rd SC S-20-41	
23. Project City: Winnsboro	24. Project County: Fairfield	25. Project Zip Code: 29180	26. Nearest Waterbody: Horse Branch
27. Tax Parcel ID: 110-00-00-004-000		28. Property Size (acres): +/- 525 Acres	
29. Latitude: 34.394987		30. Longitude: -80.982166	
31. Directions to Project Site (Include Street Numbers, Street Names, and Landmarks and attach additional sheet if necessary): The project area is located east of I-77, south of State Rd SC S-20-41, approximately 6 miles southeast of Winnsboro, South Carolina. See attached location exhibit.			
32. Description of the Overall Project and of Each Activity in or Affecting U.S. Waters or State Critical Areas (attach additional sheets if needed) The proposed project is to construct the Fairfield Quarry on an approximately 525 acre site for mining of granite. Impacts will include wetland fill and stream piping for an access road to the quarry site.			
33. Overall Project Purpose and the Basic Purpose of Each Activity In or Affecting U.S. Waters (attach additional sheets if needed): The proposed quarry will mine granite for use in various construction projects throughout the region.			
34. Type and quantity of Materials to Be Discharged		35. Type and Quantity of Impacts to U.S. Waters (including wetlands).	
Dirt or Topsoil: _____ <input type="checkbox"/> cubic yards Clean Sand: 2500 _____ <input checked="" type="checkbox"/> cubic yards Mud: _____ <input type="checkbox"/> cubic yards Clay: _____ <input type="checkbox"/> cubic yards Gravel, Rock, or Stone: _____ <input type="checkbox"/> cubic yards Concrete: _____ <input type="checkbox"/> cubic yards Other (describe): _____ <input type="checkbox"/> cubic yards TOTAL: _____ cubic yards		Filling: 0.4253 _____ <input checked="" type="checkbox"/> acres <input type="checkbox"/> sq.ft. 2500 _____ <input checked="" type="checkbox"/> cubic yards Backfill & Bedding: _____ <input type="checkbox"/> acres <input type="checkbox"/> sq.ft. _____ <input type="checkbox"/> cubic yards Landclearing: _____ <input type="checkbox"/> acres <input type="checkbox"/> sq.ft. _____ <input type="checkbox"/> cubic yards Dredging: _____ <input type="checkbox"/> acres <input type="checkbox"/> sq.ft. _____ <input type="checkbox"/> cubic yards Flooding: _____ <input type="checkbox"/> acres <input type="checkbox"/> sq.ft. _____ <input type="checkbox"/> cubic yards Draining/Excavation: _____ <input type="checkbox"/> acres <input type="checkbox"/> sq.ft. _____ <input checked="" type="checkbox"/> cubic yards Shading: _____ <input type="checkbox"/> acres <input type="checkbox"/> sq.ft. _____ <input type="checkbox"/> cubic yards TOTALS: 0.4253 _____ acres _____ sq.ft. 2500 _____ cubic yards	

36. Individually list wetland impacts including mechanized clearing, fill, excavation, flooding, draining, shading, etc. and attach a site map with location of each impact (attach additional sheets if needed).

Impact No.	Wetland Type	Distance to Receiving Water body (LF)	Purpose of Impact (road crossing, impoundment, flooding, etc)	Impact Size (acres)
1	PFO	Abutting	road crossing	0.2846
2	PFO	Abutting	road crossing	0.0591
Total Wetland Impacts (acres)				0.3437

37. Individually list all seasonal and perennial stream impacts and attach a site map with location of each impact (attach additional sheets)

Impact No.	Seasonal or Perennial Flow	Average Stream Width (LF)	Impact Type (road crossing, impoundment, flooding, etc)	Impact Length (LF)
1	Perennial	26'	road crossing	124'
Total Stream Impacts (Linear Feet)				124

38. Have you commenced work on the project site? YES NO If yes, describe all work that has occurred and provide dates.

39. Describe measures taken to avoid and minimize impacts to Waters of the United States:

A complete Section 404(b)(1) analysis describing the measures taken to avoid and minimize impacts is included in the attached Project Description.

40. Provide a brief description of the proposed mitigation plan to compensate for impacts to aquatic resources or provide justification as to why mitigation should not be required (Attach a copy of the proposed mitigation plan for review).

Upon permit approval, mitigation credits will be purchased for wetland and stream impacts. The applicant will then provide USACE with a proper receipt.

41. See the attached sheet to list the names and addresses of adjacent property owners.

42. List all Corps Permit Authorizations and other Federal, State, or Local Certifications, Approvals, Denials received for work described in this application.

SCDHEC Mining Permit

43. Authorization of Agent. I hereby authorize the agent whose name is given on page one of this application to act in my behalf in the processing of this application and to furnish supplemental information in support of this application.

[Signature] 12/17/2019
 Applicant's Signature Date

44. Certification. Application is hereby made for a permit or permits to authorize the work and uses of the work as described in this application. I certify that the information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent for the applicant.

[Signature] 12/17/2019 *[Signature]* 12/17/19
 Applicant's Signature Date Agent's Signature Date

¹The application must be signed by the person who desires to undertake the proposed activity or it may be signed by a duly authorized agent if the authorization statement in blocks 11 and 43 have been completed and signed. 18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

U.S. Army Corps of Engineers – Charleston District - Regulatory Division
REQUEST FOR CORPS JURISDICTIONAL DETERMINATION (JD) / DELINEATION
(For Jurisdictional Status and Identifying Wetlands and Other Aquatic Resources)

I. PROPERTY AND AGENT INFORMATION

A. Site Details/Location:

Site Name: Fairfield County Property Date: _____
City/Township/Parish: Winnsboro County: Fairfield
Latitude/Longitude: 34.394987, -80.982166 Acreage: 525.4
Tax Map Sequence (TMS) #(s): 110-00-00-004-000
Property Address(es): SC Highway 41/ Hope Road

Please attach a survey/plat map and vicinity map identifying location and review area for the JD/delineation. An accurate depiction of the review area must be provided (survey, tax map, or GPS coordinates). Tax maps may only be used if the site includes the entire tax map parcel.

B. Requestor of Jurisdictional Determination/Delineation (if there are multiple property owners, please attach additional pages)

Name: John Aultman
Company Name (if applicable): Vulcan Materials Company
Address: 201 Brown Road, Piedmont, SC 29673
Phone: _____ Email: _____
Check one: I currently own this property
 I plan to purchase this property
 Other, please explain Vulcan Materials Company holds a long term mining lease on the property

C. Agent/Environmental Consultant Acting on Behalf of the Requestor (if applicable):

Consultant/Agent Name: Brandon W. Wall
Company Name: Sligh Environmental Consultants, Inc.
Address: 31 Park of Commerce Way, Suite 200B, Savannah, GA 31405 Phone: 912-232-0451
Email: b_wall@slighec.com

II. REASON FOR REQUEST (check all that apply)

- I intend to construct/develop a project or perform activities on this site which would be designed to avoid all aquatic resources.
- I intend to construct/develop a project or perform activities on this site which would be designed to avoid all jurisdictional aquatic resources under Corps authority.
- I intend to construct/develop a project or perform activities on this site which may require authorization from the Corps, and the Jurisdictional Determination would be used to avoid and minimize impacts to jurisdictional aquatic resources and as an initial step in a future permitting process.
- I intend to construct/develop a project or perform activities on this site which may require authorization from the Corps; this request is accompanied by my permit application and the jurisdictional determination is to be used in the permitting process.
- I intend to construct/develop a project or perform activities in a navigable water of the U.S. which is subject to the ebb and flow of the tide.
- A Corps jurisdictional determination is required in order to obtain my local/state authorization.
- I intend to contest jurisdiction over a particular aquatic resource and the request the Corps to confirm that jurisdiction does/does not exist over the aquatic resource on the parcel.
- I believe that the site may be comprised entirely of dry land.
- Other: _____

*Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Program of the U.S. Army Corps of Engineers; Final Rule for 33 CFR Parts 320-332.

Principal Purpose: The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the project area subject to federal jurisdiction under the regulatory authorities referenced above.

Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in the approved jurisdictional determination (AJD), which will be made available to the public on the District's website and on the Headquarters USACE website.

Disclosure: Submission of requested information is voluntary; however, if information is not provided, the request for an jurisdictional determination cannot be evaluated nor can a jurisdictional determination be issued.

III. TYPE OF REQUEST:

- Approved¹ Jurisdictional Determination (AJD) Only
- Preliminary² Jurisdictional Determination (PJD) Only
- Approved Jurisdictional Determination (AJD) with submittal of a Pre-Construction Notification or Department of the Army permit application
- Preliminary Jurisdictional Determination (PJD) with submittal of a Pre-Construction Notification or Department of the Army permit application
- Delineation of Wetlands and/or Other Aquatic Resources Only Conducted By Agent/Environmental Consultant with submittal of a Pre-Construction Notification or Department of the Army permit application (No jurisdictional determination requested)
- I request that the Corps delineate the wetlands and/or other aquatic resources that may be present on my property with the attached Pre-Construction Notification or Department of the Army permit application
- I request that the Corps delineate the wetlands and/or other aquatic resources that may be present on my property with an AJD or PJD
- "No Permit Required" (NPR) Letter as I believe my proposed activity is not regulated³
- Unclear as to which jurisdictional determination I would like to request and require additional information to inform my decision

¹Approved – An AJD is defined in Corps regulations at 33 CFR 331.2. As explained in further detail in RGL 16-01, an AJD is used to indicate that this office has identified the presence or absence of wetlands and/or other aquatic resources on a site, including their accurate location(s) and boundaries, as well as their jurisdictional status. AJDs are valid for 5 years.

²Preliminary – A PJD is defined in Corps regulations at 33 CFR 331.2. As explained in further detail in RGL 16-01, a PJD is used to indicate that this office has identified the approximate location(s) and boundaries of wetlands and/or other aquatic resources on a site that are presumed to be subject to regulatory jurisdiction of the Corps of Engineers. Unlike an AJD, a PJD does not represent a definitive, official determination that there are, or that there are not, jurisdictional aquatic resources on a site, and does not have an expiration date.

³ "No Permit Required" (NPR) Letter- A NPR letter may be provided by the Corps to notify the requestor that an activity will not require a permit (authorization) from the Corps; this letter can only be used if the proposed activity is not a regulated activity, regardless of where the activity may occur. A NPR letter cannot be used to indicate the presence or absence of wetlands and/or other aquatic resources, nor can it be used to determine their jurisdictional status.

IV. LEGAL RIGHT OF ENTRY

By signing below, I am indicating that I have the authority, or am acting as the duly authorized agent of a person or entity with such authority, to and do hereby grant U.S. Army Corps of Engineers personnel right of entry to legally access the property(ies) subject to this request for the purposes of conducting on-site investigations (e.g., digging and refilling shallow holes) and issuing a jurisdictional determination. I acknowledge that my signature is an affirmation that I possess the requisite property rights to request a jurisdictional determination on the properties subject to this request.

31 Park of Commerce Way, Suite 200B, Savannah, GA 31405

Mailing Address

b_wall@slighec.com

Email Address

Brian Wall

*Signature:

Property Address / TMS #(s)

912-232-0451

Daytime Phone Number

Brandon Wall 12/18/19

Printed Name and Date

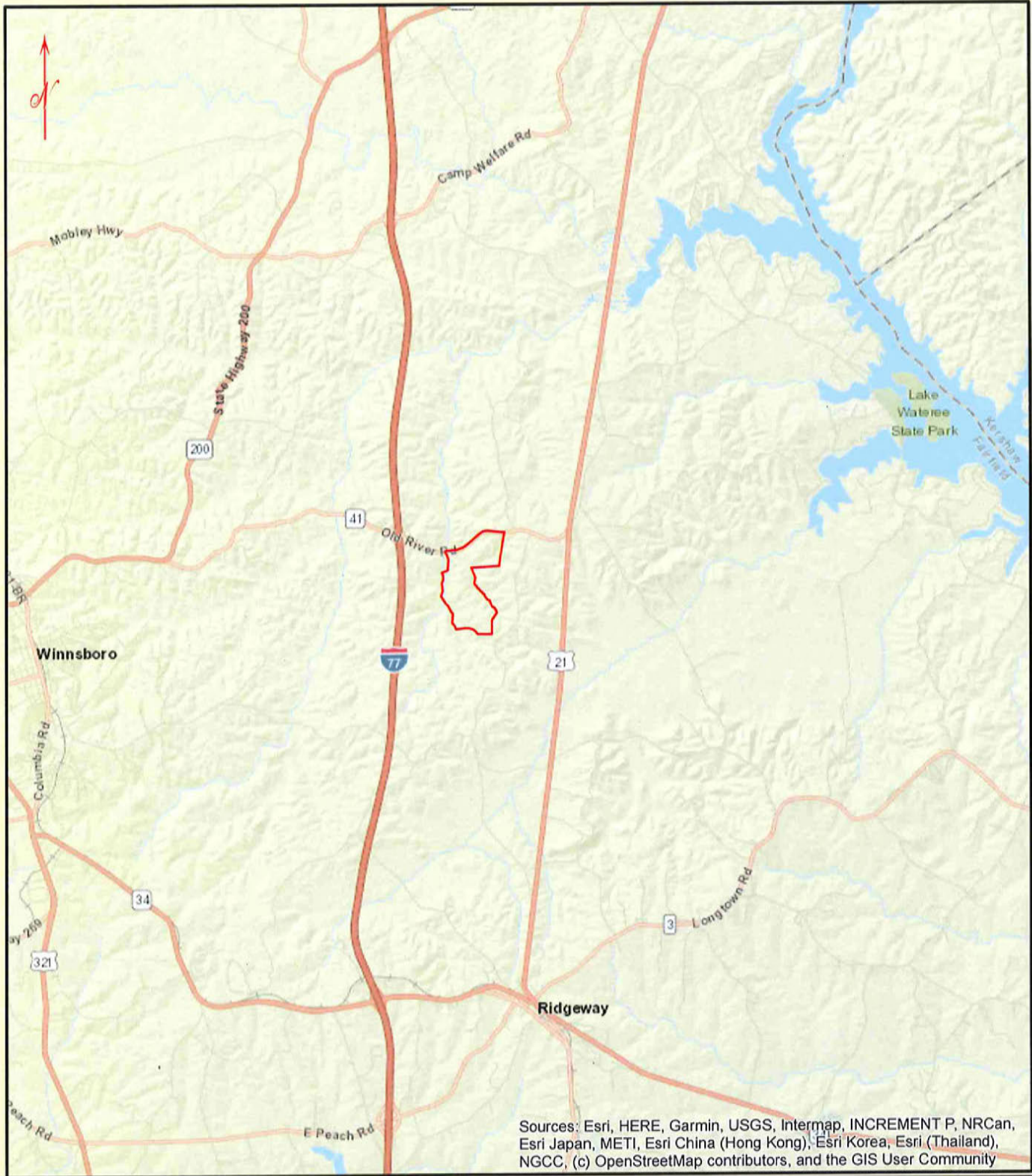
<p>Charleston Office: US Army Corps of Engineers Regulatory Division 69A Hagoood Avenue Charleston, SC 29403 (ph) 843-329-8044</p>	<p>Columbia Office: US Army Corps of Engineers Regulatory Office 1835 Assembly Street, Room 865 B-1 Columbia, SC 29201 (ph) 803-253-3444</p>	<p>Conway Office: US Army Corps of Engineers Regulatory Office 1949 Industrial Park Road, Room 140 Conway, SC 29526 (ph) 843-365-4239</p>
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*Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Program of the U.S. Army Corps of Engineers; Final Rule for 33 CFR Parts 320-332.

Principal Purpose: The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the project area subject to federal jurisdiction under the regulatory authorities referenced above.

Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in the approved jurisdictional determination (AJD), which will be made available to the public on the District's website and on the Headquarters USACE website.

Disclosure: Submission of requested information is voluntary; however, if information is not provided, the request for an jurisdictional determination cannot be evaluated nor can a jurisdictional determination be issued.



Project Limits (+/- 525.4 acres)

Prepared By:
sligh environmental consultants, inc.
 31 Park of Commerce Way, Suite 200B
 Savannah, Georgia 31405
 phone (912) 232-0451
 fax (912) 232-0453
 www.slighcec.com

Location Map
 Fairfield County Tract
 Fairfield County, South Carolina

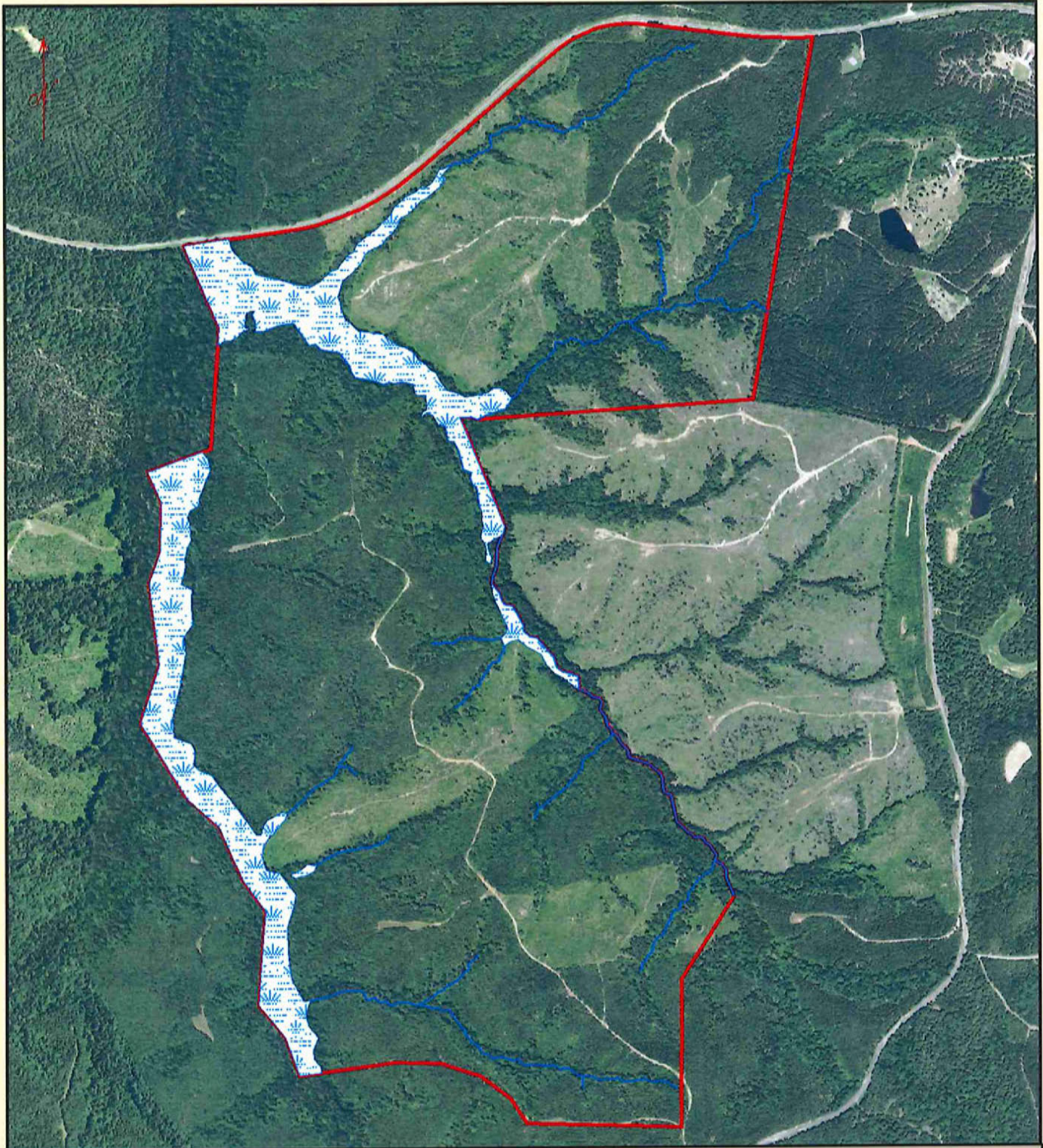
1 inch = 2 miles


Exhibit Date: November 21, 2019


Drawn By: TCT


Reviewed By: BWW

Job Number : 01-18-062



 Project Limits
(+/- 525.4 acres)

 Wetland
(+/- 48.86 acres)

 Stream
(+/- 23290.18 L.F.)

Prepared By:
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Aerial Photograph
 Fairfield County Tract
 Fairfield County, South Carolina

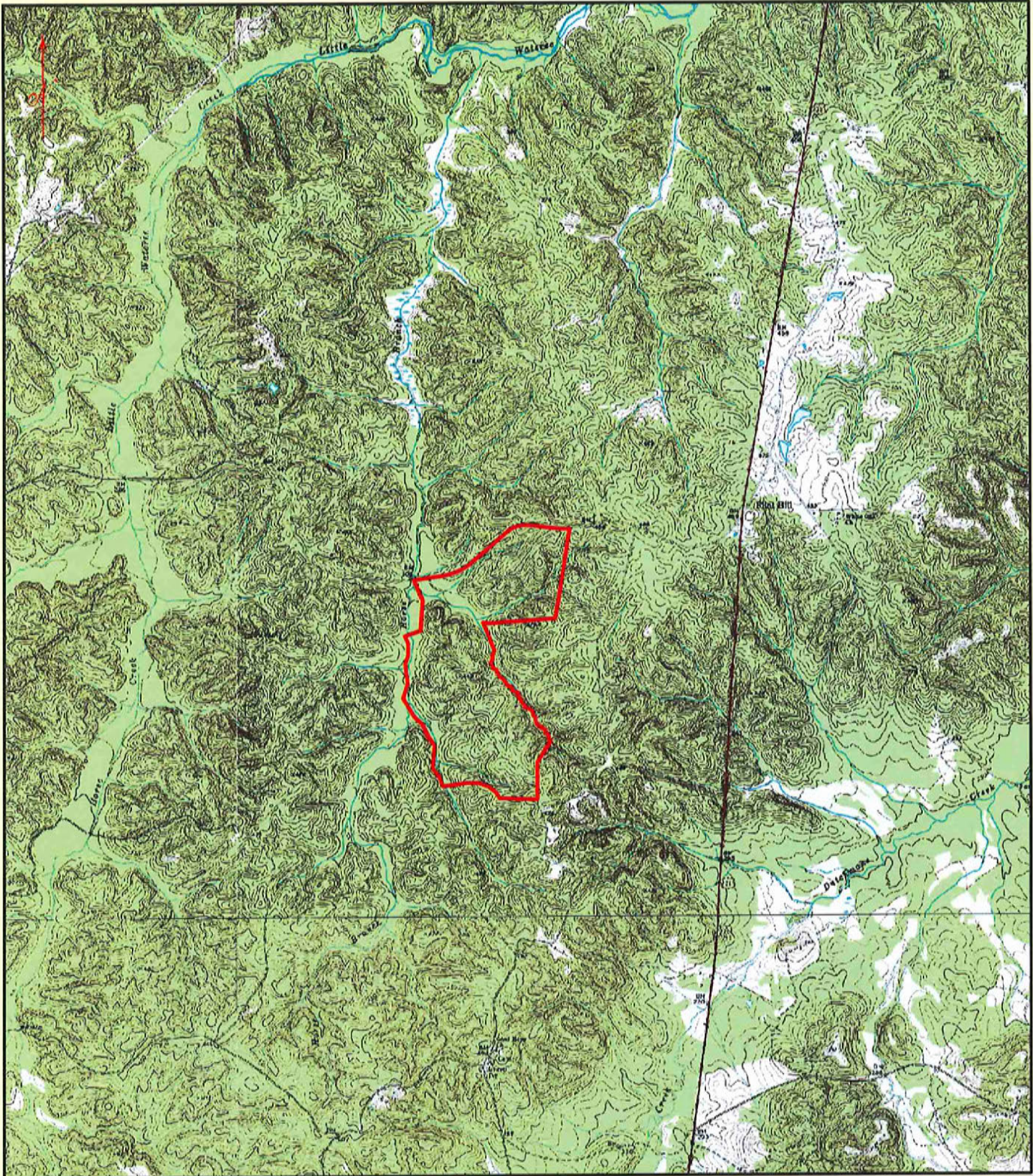
1 inch = 1,000 feet


Exhibit Date: November 21, 2019

Drawn By: TCT

Reviewed By: BWV

Job Number : 01-18-062



 Project Limits (+/- 525.4 acres)

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USGS Map
 Fairfield County Tract
 Fairfield County, South Carolina

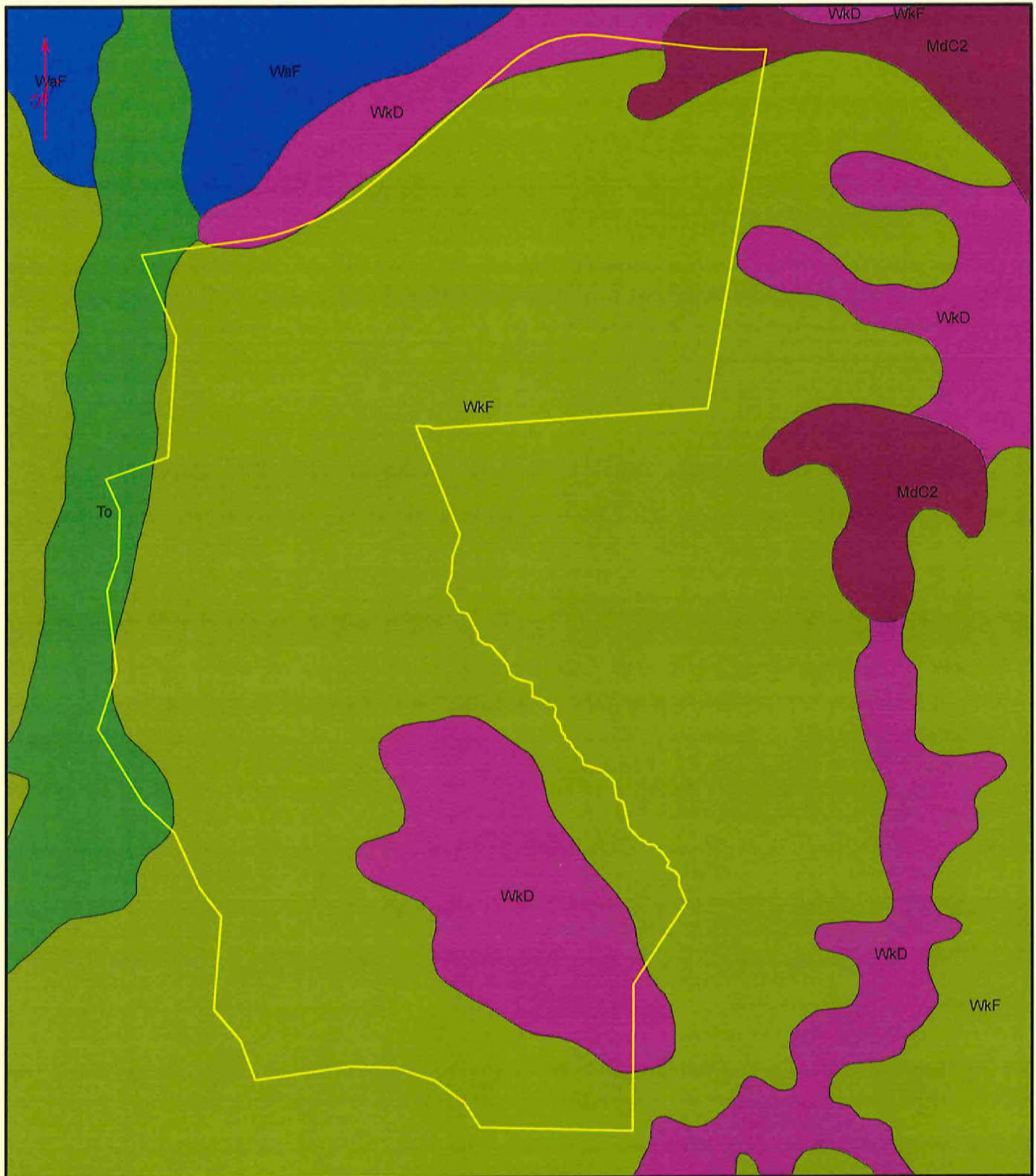
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
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Soils Map
 Fairfield County Tract
 Fairfield County, South Carolina

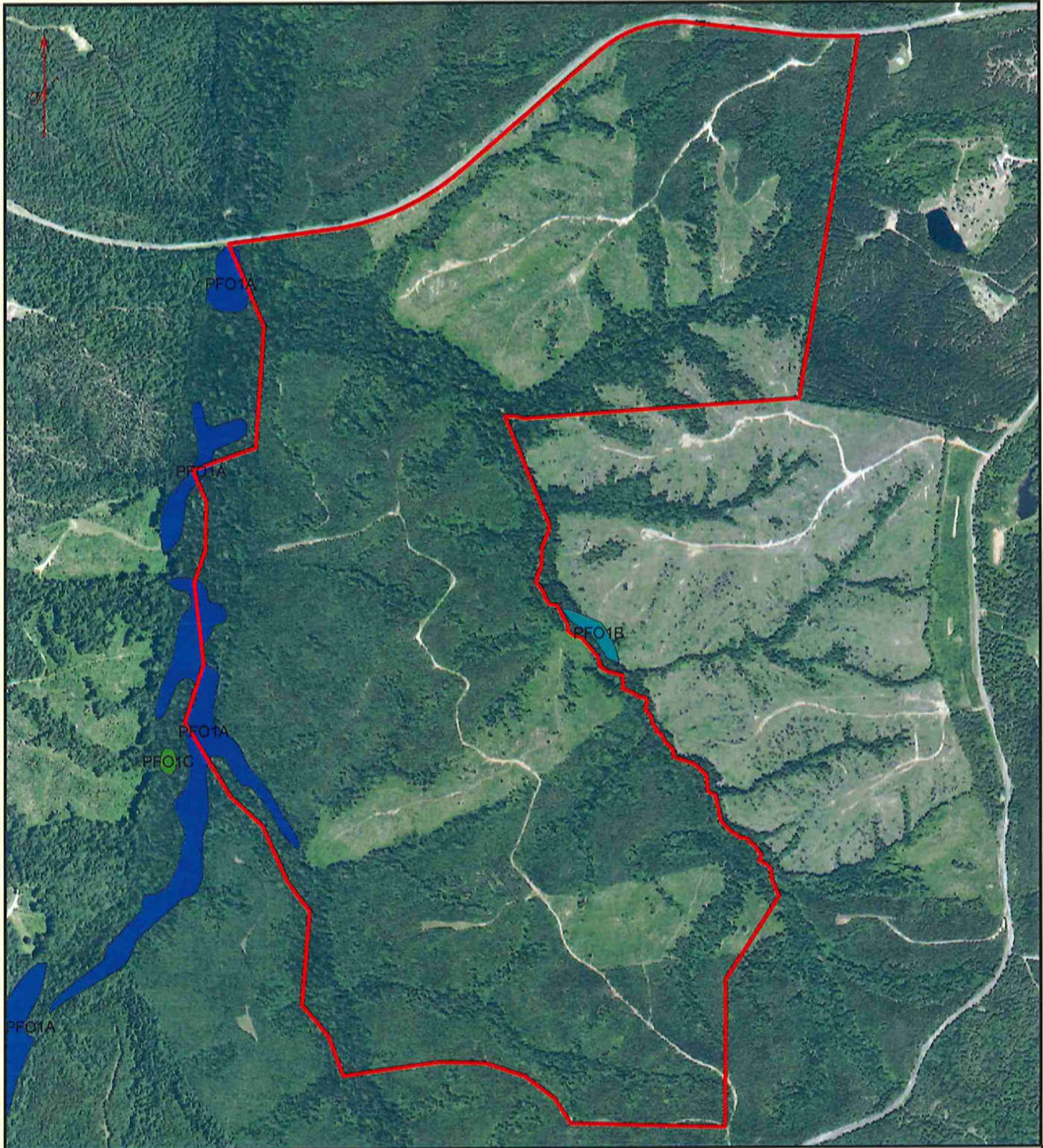
1 inch = 1,000 feet


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NWI Map
 Fairfield County Tract
 Fairfield County, South Carolina

1 inch = 1,000 feet

Exhibit Date: November 21, 2019

Drawn By: TCT

Reviewed By: BWW

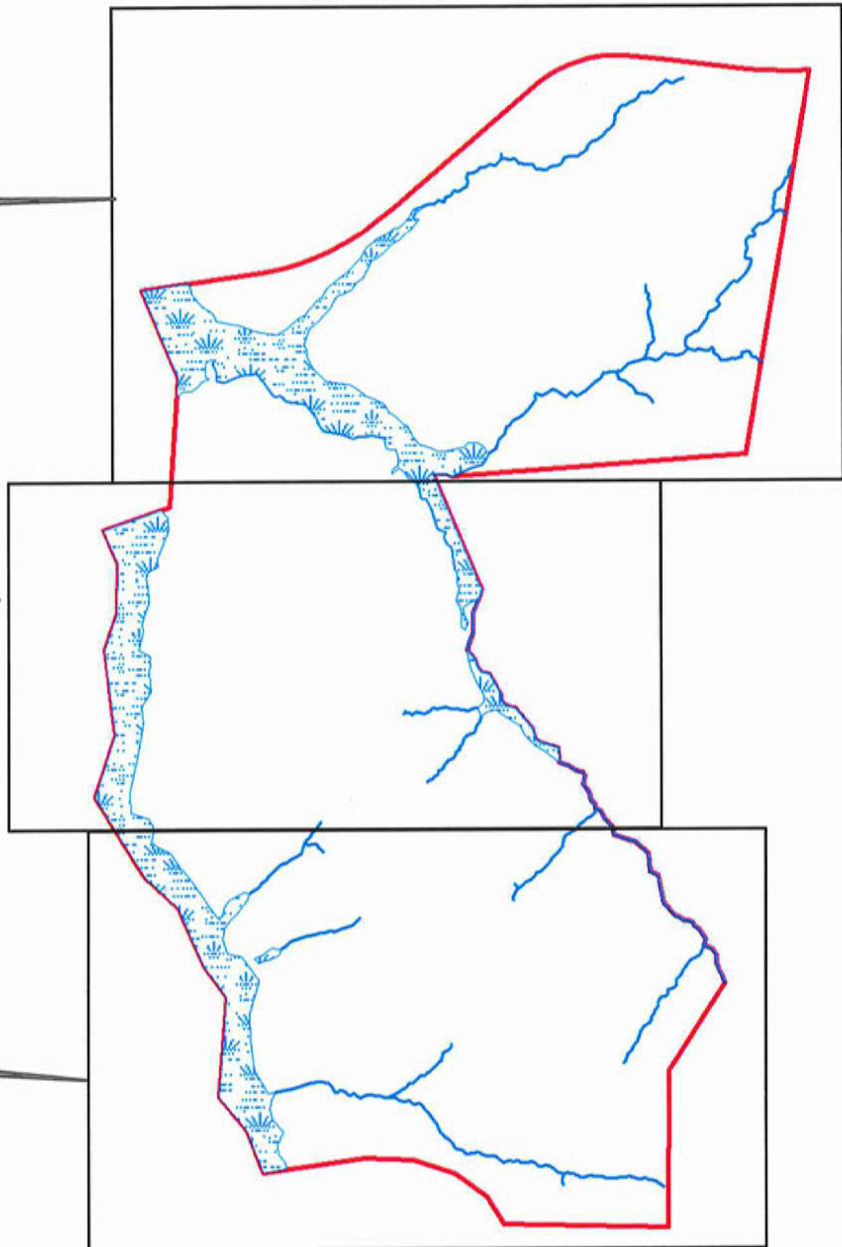
Job Number : 01-18-062





Sheet 2


Sheet 3

Sheet 4



 Project Limits
(+/- 525.4 acres)

 Wetland
(+/- 48.86 acres)

 Stream
(+/- 23290.18 L.F.)

Prepared By:
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Wetland Exhibit
Fairfield County Tract
Fairfield County, South Carolina
Sheet 1 of 4

1 inch = 1,250 feet

Exhibit Date: November 25, 2019

Drawn By: TCT

Reviewed By: BWW

Job Number : 01-18-062



Wetland A
(+/- 22.47 acres)

Stream 1
(+/- 2392.49 L.F.)

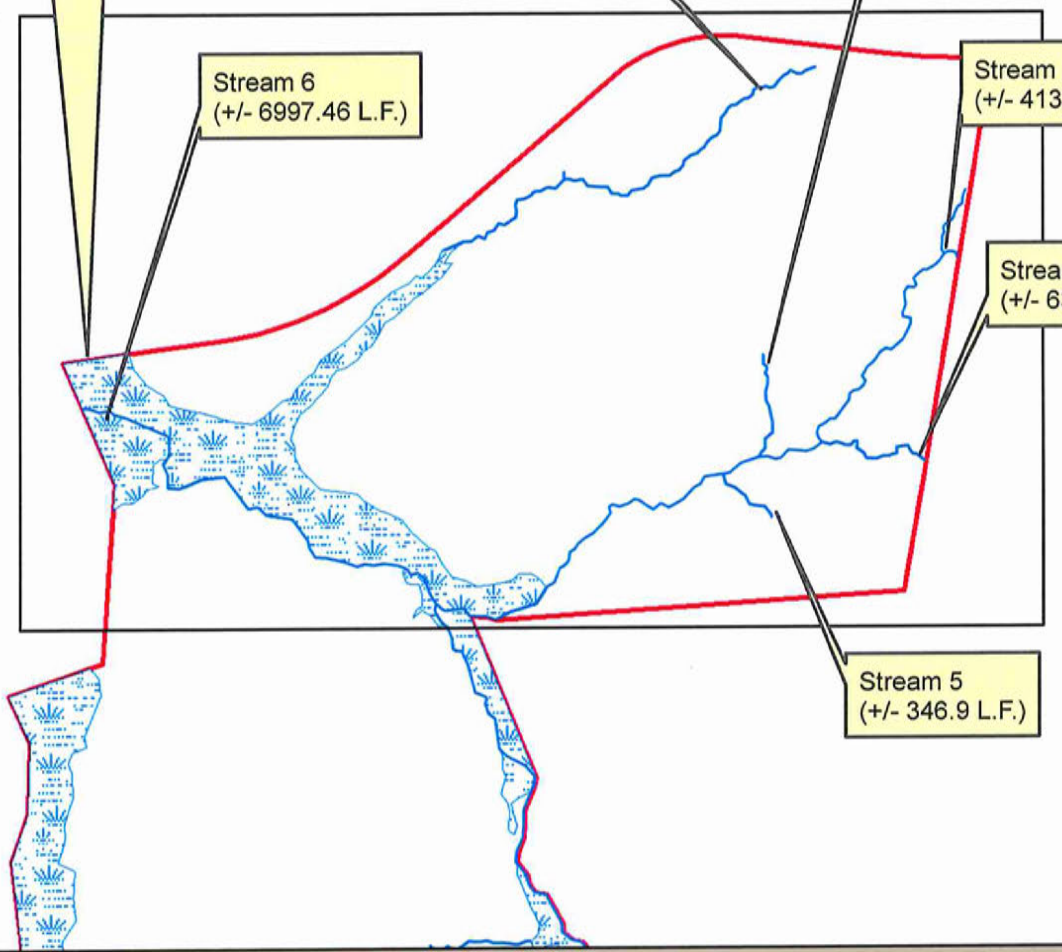
Stream 4
(+/- 545.41 L.F.)


Stream 6
(+/- 6997.46 L.F.)


Stream 2
(+/- 4133.36 L.F.)


Stream 3
(+/- 639.26 L.F.)

Stream 5
(+/- 346.9 L.F.)



 Project Limits
(+/- 525.4 acres)

 Wetland
(+/- 48.86 acres)

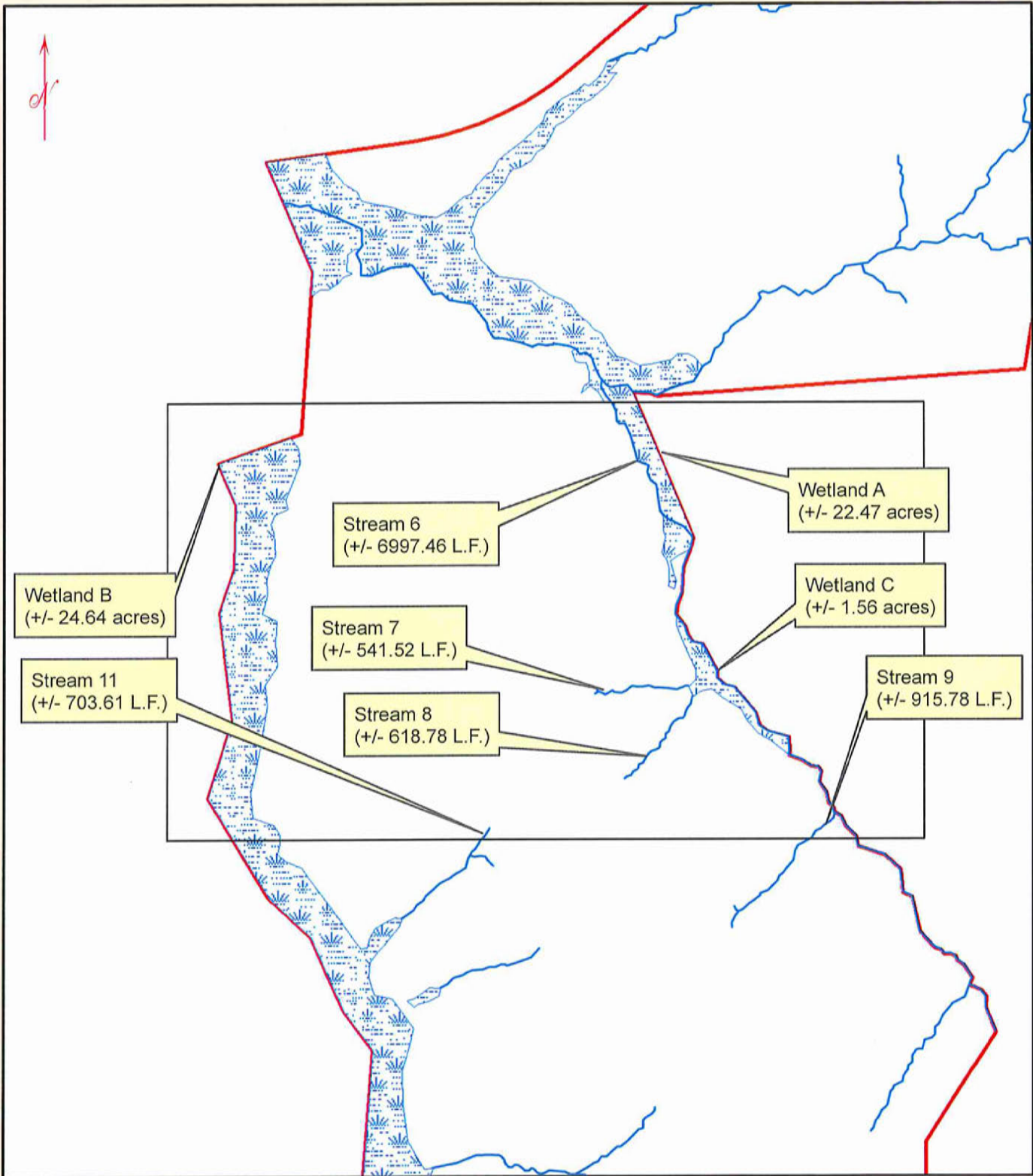
 Stream
(+/- 23,290.18 L.F.)

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Wetland Exhibit
Fairfield County Tract
Fairfield County, South Carolina
Sheet 2 of 4

1 inch = 900 feet

Exhibit Date: November 25, 2019
Drawn By: TCT
Reviewed By: BWW
Job Number: 01-18-062



Project Limits (+/- 525.4 acres)

 Wetland (+/- 48.86 acres)

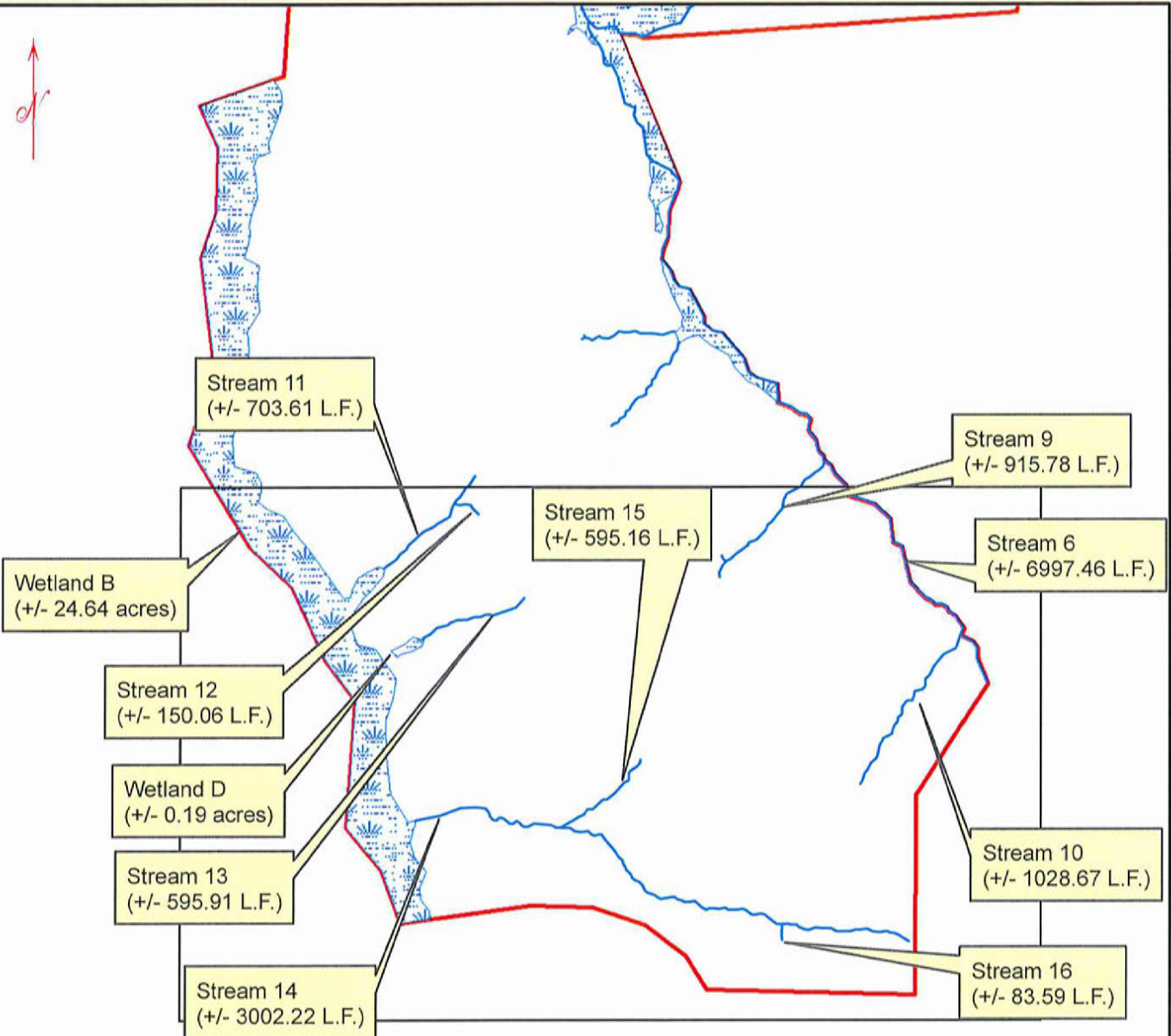
 Stream (+/- 23,290.18 L.F.)


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Wetland Exhibit
 Fairfield County Tract
 Fairfield County, South Carolina
 Sheet 3 of 4


1 inch = 750 feet

Exhibit Date: November 25, 2019
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Reviewed By: BWW
Job Number : 01-18-062



 Project Limits
(+/- 525.4 acres)

 Wetland
(+/- 48.86 acres)

 Stream
(+/- 23,290.18 L.F.)

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Wetland Exhibit
Fairfield County Tract
Fairfield County, South Carolina
Sheet 4 of 4

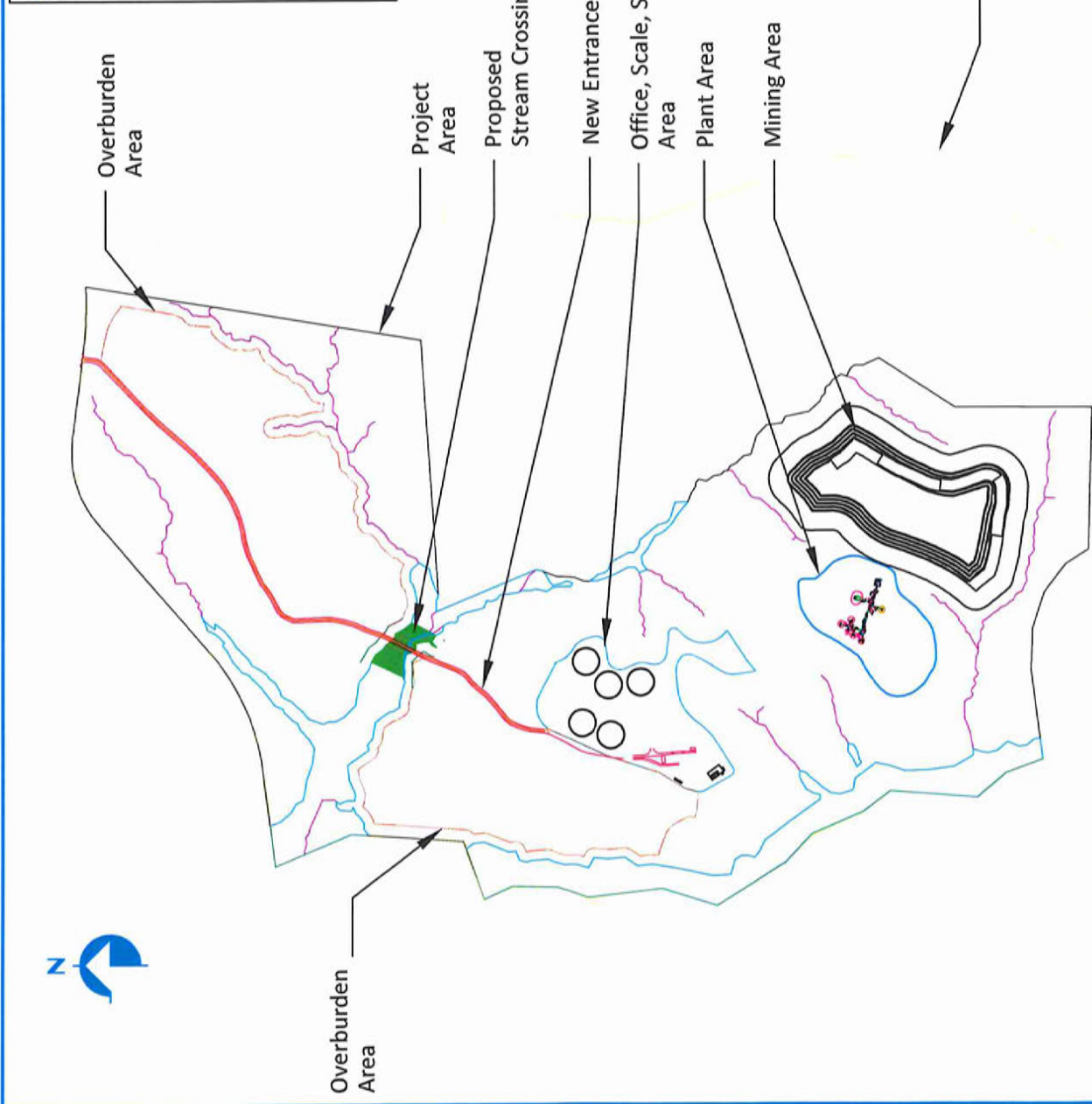
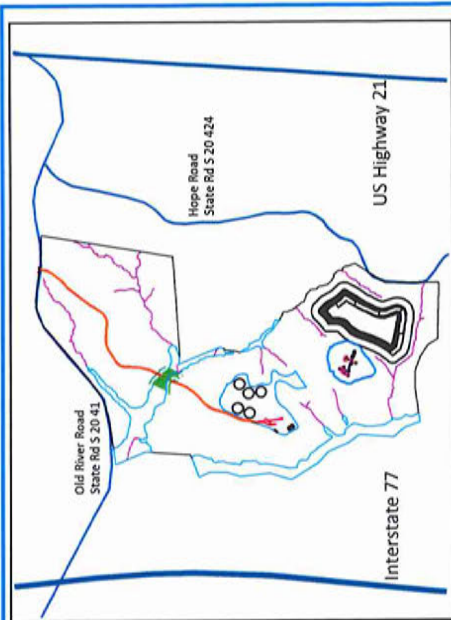
1 inch = 850 feet

Exhibit Date: November 25, 2019

Drawn By: TCT

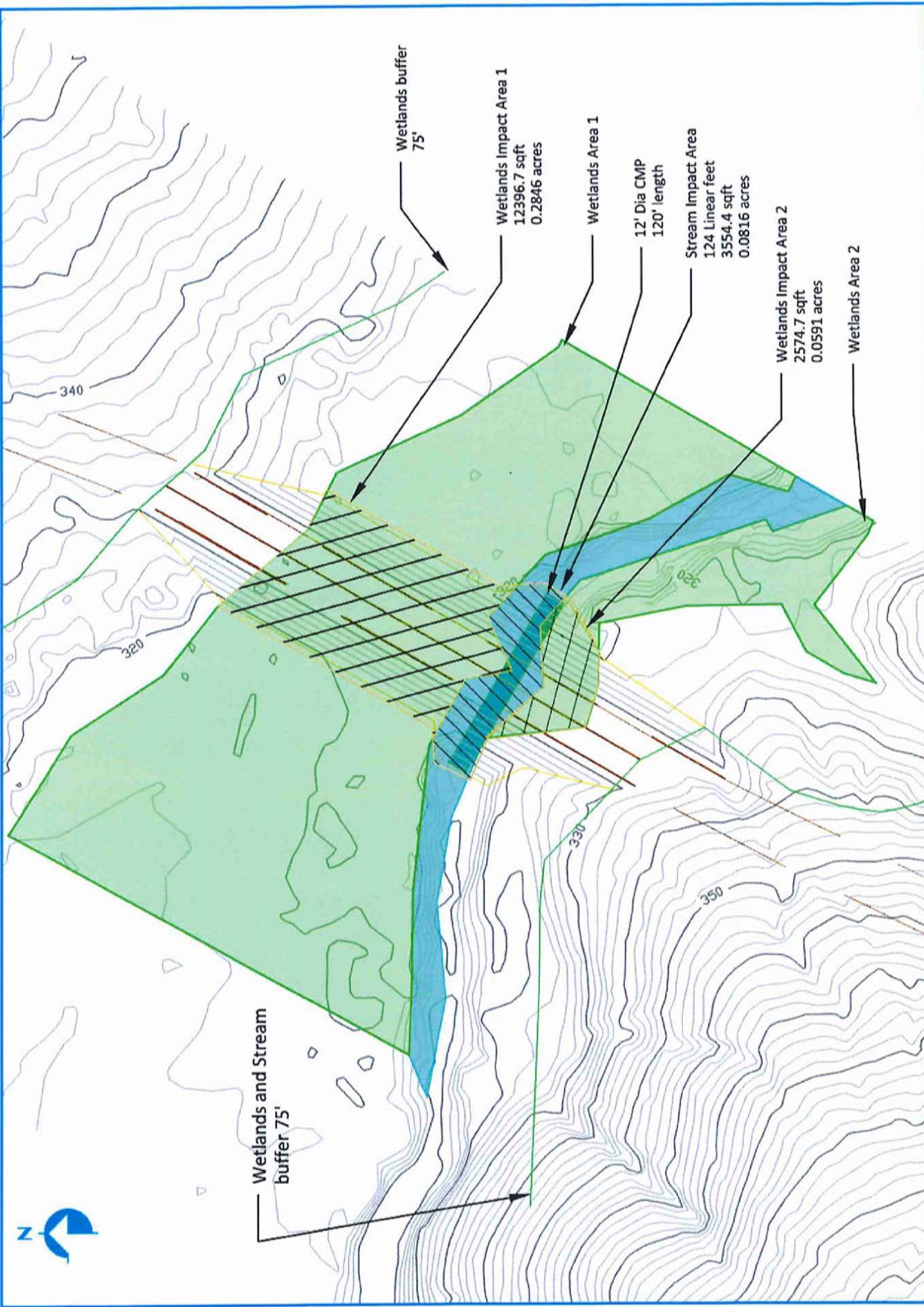
Reviewed By: BWW

Job Number: 01-18-062



D		TOLERANCES—UNLESS NOTED		PROJECT		FAIRFIELD	
C		FRANCHISE: ± 1/16"		SHEET NO.		SHEET 1 OF 1	
B		DECIMAL: ± 0.010"		DATE		DATE	
A		ANGLE: ± 0.1°		1-28-2019		1-28-2019	
-		INITIAL RELEASE		BY		BY	
-		DATE		REVISION		REF	





D	DATE	BY	REVISION	REF
C	INITIAL RELEASE			
B				
A				
TOLERANCES—UNLESS NOTED				
PRECISION: 1/8" = 1' ± 0.02'				
VERTICAL: 1/16" = 1' ± 0.01'				
HORIZONTAL: 1/16" = 1' ± 0.01'				
ALL DIMENSIONS, UNLESS OTHERWISE SPECIFIED, ARE TO BE TAKEN FROM THE FACE OF THE OBJECT UNLESS OTHERWISE SPECIFIED. DIMENSIONS MAY VARY SLIGHTLY DUE TO ROUNDING OR OTHER FACTORS.				
VULCAN MATERIALS COMPANY				
CROSSING AREA				
PLAN VIEW				
SOUTHEAST				
FAIRFIELD				
RCA				
11-16-2019				
SHEET 1 OF 1				

**Project Description
Fairfield Quarry
Vulcan Materials Company
Fairfield County, South Carolina
December 17, 2019**

Introduction:

Sligh Environmental Consultants, Inc. (SECI), on behalf of Vulcan Construction Materials, LLC (applicant), requests authorization under Nationwide Permit 44 for construction of the Fairfield Quarry. The project area is located east of I-77, south of State Rd SC S-20-41, approximately 6 miles southeast of Winnsboro, South Carolina.

Proposed Project:

The purpose of the proposed project is to construct the Fairfield Quarry on an approximately 525 acre site. The proposed quarry will mine granite for use in various construction projects throughout the region. The proposed facilities consist of a quarry on the southern portion of the site with a processing plant directly west of the quarry. North of the plant area will be an area for office space, scales, and a stockpile area. Overburden areas will be located on the northern part of the property. The processing facilities will consist of various crushers, conveyors, storage piles, bins, and hoppers, and a closed-loop wash circuit with processing ponds. Access to the mine will be via a new road extending south from State Rd S-20-41.

The +/- 525 acre project site consists of approximately 48.86 acres of forested wetland and 23,290 linear feet of perennial and intermittent stream. The only jurisdictional impacts associated with the project will be for construction of the access road to the mine. The road will cross a perennial stream and adjacent forested wetland resulting in 0.3437 acre of wetland fill and 124 linear feet (0.0816 acre) of stream piping. Prior to the final site plan, the applicant evaluated multiple alternatives to minimize jurisdictional impacts to the greatest extent practicable. Following extensive exploratory borings and review of environmental data, the quarry was sited within contiguous upland where the reserves are the best quality. The remainder of the mine facilities such as the plant, office, and overburden will also be located within uplands to minimize impacts to jurisdictional area. The applicant evaluated alternatives for expanding both the plant and the overburden piles, thereby increasing the stream impacts. These alternatives provided much needed overburden storage and reduced some of the construction and space limitations on the plant facilities, but the applicant rejected these alternatives to reduce impacts. The only impacts associated with the preferred site plan are required for a single road crossing. For the road, the applicant evaluated two other alternatives. First, the applicant evaluated using Hope Road and accessing the mine site from the east. This would require that a haul road be constructed to access the northern part of the property for overburden storage. This would still impact wetland and stream, but this alternative required improving (widening and repaving) the entire reach of Hope Road from the mine site to State Rd S-20-41 (~1.8 mile). Currently, Hope Road contains a 20-foot wide paved surface that is in disrepair with many structural deficiencies/potholes, no striping, and narrow shoulders. The road improvements would require coordination with state and local officials, may require private property (right-of-way) acquisition, would be very costly, and would likely require jurisdictional impacts associated with widening the road. This alternative would also route truck traffic through residential properties (the preferred alternative does not). For all of these reasons, this alternative was rejected, and the preferred alternative was considered the LEDPA.

Threatened and Endangered Species

SECI complete a thorough habitat assessment and survey for federally threatened and endangered species within the project area. The U.S. Fish & Wildlife Service (USFWS) Information, Planning, and Conservation (IPaC) System and the USFWS Environmental Conservation Online System (ECOS) were consulted to determine the species for which to conduct the survey. These species included was the Carolina heelsplitter (*Lasmigona decorata*).

The Carolina heelsplitter is only known to exist in limited locations in parts of North and South Carolina. It exists in very low abundances, typically within 2 meters of shorelines in primarily woodland habitat. The Carolina heelsplitter survives in stream areas that have low silt accumulations which allows for well-oxygenated water and stability. Stream bank and stream bottom stability are the most essential habitat elements to the species.

The project area consists of mixed pine hardwood forest, pine plantation, and food plots in the upland. Jurisdictional area consists of forested wetland and perennial and intermittent stream segments. SECI carefully evaluated the

perennial stream proposed for impact. The stream is deeply incised (8-10') and primarily contains a sandy substrate with some rocks/boulders. Additionally, the stream has low flows throughout the majority of the year resulting in low levels of oxygen required by this species. During the pedestrian survey, it was determined that this impaired stream is not suitable to support the Carolina heelsplitter, and no individuals of this species were observed. Also, the property is greater than 25 miles from the nearest critical habitat, and the species has not been documented within the subject watershed. It was therefore determined that the proposed project would have no effect on any protected species or designated critical habitat.

Cultural Resources

The applicant completed a cultural resources survey of the project area. The survey was completed by Brockington & Associates in November 2019 and was submitted to the South Carolina Department of Archives and History (SCDAH) for review and comment. The survey identified 9 archaeological sites and 15 isolated finds. Brockington & Associates recommended that all 15 isolated finds are not eligible for listing on the National Register of Historic Places (NRHP) due to low frequency of material and lack of cultural features at these locations. By letter dated December 10, 2019, SCDAH concurred with the findings of the report and concluded that no eligible resources were located on-site and no additional surveys were needed. The mining activities conducted within the project site will therefore have no impact on historic properties or archaeological sites. Attached to this permit application is an excerpt from the Phase I report as well as the December 10, 2019 SCDAH concurrence letter. A copy of the full Phase I report can be provided upon request.

Mitigation Plan:

According to the SOP Worksheets, 3.68 wetland credits and 477.4 stream credits are required to offset the 0.3437 acre of wetland impact and 124 linear feet of stream impact. The applicant is proposing to purchase the wetland credits from the Arrowhead Farms Mitigation Bank. The project site is located just 6 miles outside the bank's secondary service area, but there are no other wetland banks in the area. The applicant is therefore requesting approval to use this bank. Stream credits will be purchased from Taylor Creek Mitigation Bank which is located in the primary service area. If stream credits at this location are not available at the time of permit approval, credits will be purchased from the secondary service area, Sandy Fork Mitigation Bank, or the tertiary service area, Turners Branch Mitigation Bank. Upon permit approval and prior to commencing with the impacts, the applicant will purchase the required credits and provide the USACE with a proper receipt.

Conclusion:

SECI, on behalf of Vulcan Construction Materials, LLC, respectfully requests authorization under Nationwide Permit 44 for construction of the Fairfield Quarry located southeast of Winnsboro in Fairfield County, South Carolina. The project will provide granite construction materials to be used throughout the region on various construction projects. The applicant has avoided and minimized jurisdictional impacts to the greatest extent practicable by locating the project in the largest contiguous upland area on-site. The only impacts required for the project are associated with a single road crossing. No cultural resources are located within or adjacent to the project area, and the SCDAH has reviewed and approved the cultural resources survey report. As mitigation for the unavoidable impacts, the applicant is proposing to purchase 3.68 wetland credits and 477.4 stream credits. Most likely, the required wetland credits will be purchased from the Arrowhead Farms Mitigation bank. The stream credits will most likely be purchased from Taylor Creek Mitigation Bank. All proposed activities will be performed in accordance with proper BMP's (silt fencing, grassed slopes, etc.) to eliminate erosion and sedimentation from the project. There will be no oils or other pollutants released from the proposed activities, and the proposed project should have no adverse effect on water quality.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Fairfield County Property City/County: Fairfield Sampling Date: 11/19/19
 Applicant/Owner: Vulcan Materials State: SC Sampling Point: Wet 1
 Investigator(s): Sligh Environmental Consultants, Inc. Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): <5%
 Subregion (LRR or MLRA): LRR Lat: 34.399488 Long: -80.981042 Datum: NAD 83
 Soil Map Unit Name: WkF - Wilkes sandy loam NWI classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			
Remarks:					

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)</p>
<p>Field Observations:</p> <p>Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)</p>	<p>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: Wet 1

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Acer rubrum</u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>
2. <u>Liquidambar styraciflua</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>
3. <u>Quercus nigra</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>
4. <u>Pinus taeda</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>
5. <u>Liriodendron tulipifera</u>	<u>10</u>	<u>No</u>	<u>FAC</u>
6. _____	_____	_____	_____
<u>80</u> = Total Cover			
50% of total cover: <u>40</u> 20% of total cover: <u>16</u>			

Sapling Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Ulmus americana</u>	<u>40</u>	<u>Yes</u>	<u>FACW</u>
2. <u>Acer rubrum</u>	<u>10</u>	<u>No</u>	<u>FAC</u>
3. <u>Liquidambar styraciflua</u>	<u>10</u>	<u>No</u>	<u>FAC</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
<u>60</u> = Total Cover			
50% of total cover: <u>30</u> 20% of total cover: <u>12</u>			

Shrub Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Cephalanthus occidentalis</u>	<u>10</u>	<u>Yes</u>	<u>OBL</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
<u>10</u> = Total Cover			
50% of total cover: <u>5</u> 20% of total cover: <u>2</u>			

Herb Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Chasmanthium sessiflorum</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
<u>20</u> = Total Cover			
50% of total cover: <u>10</u> 20% of total cover: <u>4</u>			

Woody Vine Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
_____ = Total Cover			
50% of total cover: _____ 20% of total cover: _____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by:

OBL species _____ x 1 = _____

FACW species _____ x 2 = _____

FAC species _____ x 3 = _____

FACU species _____ x 4 = _____

UPL species _____ x 5 = _____

Column Totals: _____ (A) _____ (B)

Prevalence Index = B/A = _____

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is >50%
 - 3 - Prevalence Index is ≤3.0¹
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: Wet 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8"	10YR 3/2	80	10YR 7/1	10	D	M	clay loam	
			10YR 5/6	10	C	M	clay loam	
8-20"	10YR 4/2	70	10YR 5/6	10	C	M	sandy loa	10YR 6/1 mottles (20%)

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Fairfield County Property City/County: Fairfield Sampling Date: 11/19/19
 Applicant/Owner: Vulcan Materials State: SC Sampling Point: Up 1
 Investigator(s): Sligh Environmental Consultants, Inc. Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 15%
 Subregion (LRR or MLRA): LRR Lat: 34.400523 Long: -80.977953 Datum: NAD 83
 Soil Map Unit Name: WkF - Wilkes sandy loam NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: Up 1

	Absolute % Cover	Dominant Species?	Indicator Status		
Tree Stratum (Plot size: <u>30'</u>)					
1. <u>Pinus taeda</u>	<u>60</u>	<u>Yes</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
2. <u>Liquidambar styraciflua</u>	<u>10</u>	<u>No</u>	<u>FAC</u>		
3. <u>Quercus nigra</u>	<u>5</u>	<u>No</u>	<u>FAC</u>		
4. _____					
5. _____					
6. _____					
<u>75</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
50% of total cover: <u>37.5</u> 20% of total cover: <u>15</u>					
Sapling Stratum (Plot size: <u>30'</u>)					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
_____ = Total Cover				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
50% of total cover: _____ 20% of total cover: _____					
Shrub Stratum (Plot size: <u>30'</u>)					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
_____ = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Five Vegetation Strata: Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine – All woody vines, regardless of height.	
50% of total cover: _____ 20% of total cover: _____					
Herb Stratum (Plot size: <u>30'</u>)					
1. <u>Rubus betulifolius</u>	<u>50</u>	<u>Yes</u>	<u>FAC</u>		
2. <u>Andropogon virginicus</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>		
3. <u>Chasmanthium sessiflorum</u>	<u>10</u>	<u>No</u>	<u>FAC</u>		
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
<u>80</u> = Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
50% of total cover: <u>40</u> 20% of total cover: <u>16</u>					
Woody Vine Stratum (Plot size: <u>30'</u>)					
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
_____ = Total Cover					
50% of total cover: _____ 20% of total cover: _____					
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL

Sampling Point: Up 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6"	10YR 4/2	100					loam	
6-20"	10YR 6/4	100					sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (LRR N)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) (MLRA 147, 148)
- Thin Dark Surface (S9) (MLRA 147, 148)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (LRR N, MLRA 136)
- Umbric Surface (F13) (MLRA 136, 122)
- Piedmont Floodplain Soils (F19) (MLRA 148)
- Red Parent Material (F21) (MLRA 127, 147)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (MLRA 147)
- Coast Prairie Redox (A16) (MLRA 147, 148)
- Piedmont Floodplain Soils (F19) (MLRA 136, 147)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

Determination of Stream Credits

Working Draft, Subject to Change

Last Revised: October 07, 2010

3.0 Table and Worksheet

Adverse Impact Factors Table for Linear Systems										
FACTORS	OPTIONS									
Stream Type ¹	Non-RPW 0.10			1 st and 2 nd Order RPWs 0.8			All Other Streams 0.4			
Priority Category	Tertiary 0.1			Secondary 0.4			Primary 0.6			
Existing Condition	Very Impaired 0.1		Impaired 0.5		Partially Impaired 0.75		Fully Functional 1.5			
Duration	Temporary 0.05			Recurrent 0.1			Permanent 0.3			
Dominant Impact	Shade / Clear 0.05	Utility Crossing 0.15	Culvert 0.3	Armor 0.5	Detention / Weir 0.75	Morpho-Logic 1.5	Impound / Flood 2.0	Pipe 2.2	Fill 2.5	
Cumulative Impact (LF)	< 50' .01		51-300' 0.10		301-500' 0.20		501-1000' 0.40		1001-6000' 1.5	> 6000' 3.0

¹ Stream type does not include man-made linear features. These features will be evaluated on a case-by-case basis.

Required Mitigation Credits Worksheet for Linear Systems						
FACTOR	IMPACT 1	IMPACT 2	IMPACT 3	IMPACT 4	IMPACT 5	IMPACT 6
Stream Type	All other streams					
Priority Category	Tertiary					
Existing Condition	Partially Impaired					
Duration	Permanent					
Dominant Impact	Pipe					
Cumulative Impact	51-300'					
Sum of R Factors	3.85					
Linear Feet Impact	124					
R x LL =	477.4					

Total Required Credits = Σ (R x LL) =

477.4

Required Wetland Mitigation Credit Table and Worksheet



TIP: Leave cursor over each factor or option below to pop-up helpful information or definitions.

Required Wetland Mitigation Credit Table						
FACTORS	OPTIONS					
Lost Type	Type C 0.2		Type B 2.0		Type A 3.0	
Priority Category	Tertiary 0.5		Secondary 1.5		Primary 2.0	
Existing Condition	Very Impaired 0.1	Impaired 1.0		Partially Impaired 2.0		Fully Functional 2.5
Duration	0 to 1 Year 0.2	1 to 3 Years 0.5	3 to 5 Years 1.0	5 to 10 Years 1.5	Over 10 Years 2.0	
Dominant Impact	Shade 0.2	Clear 1.0	Drain 2.0	Dredge 2.5	Impound/Flood 2.5	Fill 3.0
Cumulative Impact	< 0.25 Acre 0.1	0.25 - 0.99 Acres 0.2	1.0 - 2.99 Acres 0.5	3.0 - 9.99 Acres 1.0	≥ 10.0 Acres 2.0	

NOTE: The cumulative impact factor for the overall project should be included in the sum of factors for each impacted area on the Required Wetland Mitigation Credit Worksheet

Required Wetland Mitigation Credit Worksheet						
FACTOR	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6
Lost Type	Type A					
Priority Category	Tertiary					
Existing Condition	Partially Impaired					
Duration	Over 10 Years					
Dominant Impact	Fill					
Cumulative Impact	0.25 - 0.99 Acres					
Sum of Factors	10.7					
Impacted Area	0.3437					
R x AA=	3.67759					

Required Wetland Mitigation Credits = $\Sigma (R \times A) =$

3.67759



December 10, 2019

Larry B. James
Principal Investigator
Brockington and Associates, Inc.
498 Wando Park Boulevard, #700
Mount Pleasant, SC 29464

Re: Fairfield Quarry Tract
Cultural Resources Survey
Fairfield County, South Carolina
SHPO Project No. 19-KL0393

Dear Larry James:

Our Office received documentation on November 11, 2019 that you submitted as due diligence for the project referenced above, including the draft report, *Cultural Resources Survey of the Fairfield Quarry Tract, Fairfield County, South Carolina*. This letter is for preliminary, informational purposes only and does not constitute consultation or agency coordination with our Office as defined in 36 CFR 800: "Protection of Historic Properties" or by any state regulatory process. The recommendation stated below could change once the responsible federal and/or state agency initiates consultation with our Office.

The proposed project is defined as a mining operation for the extraction of mineral deposits. The project area is defined as 909.72 acres.

As noted in your letter, the project area was previously surveyed for cultural resources/historic properties during the *Cultural Resources Identification Survey Weyerhauser Tract Fairfield County, South Carolina* (S&ME 2019). Two previously recorded archaeological sites (38FA0621 and 38FA0622) were revisited during the current survey. Nine newly recorded archaeological sites (38FA0638-38FA0646) and 15 isolated finds were identified. Sites 38FA0621, 38FA0622, 38FA0638-38FA0646 and the isolated finds are recommended as not eligible for listing in the National Register of Historic Places (NRHP). Our office concurs with these recommendations.

If the Fairfield Quarry Tract were to require state permits or federal permits, licenses, funds, loans, grants, or assistance for development, we would recommend to the federal or state agency or agencies that:

- Additional cultural resources/historic property identification survey of the project area **are not** needed.

The federal or state agency or agencies will take our recommendation(s) into consideration when

evaluating the project and will determine if additional survey will be required.

Our office accepts the draft report as final. To complete the reporting process, please provide at least three (3) hard copies of a final report: one (1) bound hard copy and a digital copy in ADOBE Acrobat PDF format for the SHPO; one (1) bound and one (1) unbound hard copies and a digital copy in ADOBE Acrobat PDF format for SCIAA. Investigators should send all copies directly to the SHPO. The SHPO will distribute the appropriate copies to SCIAA. Please ensure that a copy of our comments letter is included in the Appendices and Attachments of the final report. Please file paperwork with SCIAA for the revisits to site 38FA0621 and 38FA0622.

Please provide GIS shapefiles for the surveyed area. Shapefiles for identified archaeological sites should be coordinated with SCIAA. Shapefiles should be compatible with ArcGIS (.shp file format) and should be sent as a bundle in .zip format. For additional information, please see our [GIS Data Submission Requirements](#).

The State Historic Preservation Office will provide comments regarding historic architectural and archaeological resources and effects to them once the federal or state agency initiates consultation. Project Review Forms and additional guidance regarding our Office's role in the compliance process and historic preservation can be found on our website at: <https://scdah.sc.gov/historic-preservation/programs/review-compliance>.

Please refer to SHPO Project Number 19-KL0393 in any future correspondence regarding this project. If you have any questions, please contact me at (803) 896-6181 or at KSchroer@scdah.sc.gov.

Sincerely,



Keely Lewis-Schroer
Archaeologist
State Historic Preservation Office

cc: Keith Derting, SCIAA

Cultural Resources Survey of The Fairfield Quarry Tract

Fairfield County, South Carolina

Draft Report

November 2019

Prepared for:

Vulcan Materials Company, Inc.

Prepared by:

A handwritten signature in black ink that reads "Larry B. James". The signature is written in a cursive, flowing style.

Larry James, RPA

Brockington and Associates, Inc.
Atlanta • Charleston • Jackson • Nashville • Savanna

1.0 Introduction

In July and August 2019, Brockington and Associates, Inc. (Brockington) conducted an intensive cultural resources survey of the Fairfield Quarry Tract in Fairfield County, South Carolina. The survey was conducted on behalf of Vulcan Materials Company, Inc. (Vulcan) who is proposing a mining operation for the extraction of mineral deposits across the tract. Compliance is administered through the regulatory programs of the US Army Corps of Engineers (USACE) (33 CFR Part 325) and the South Carolina Department of Health and Environmental Control (SCDHEC) permit (Permit I-002245). All work was performed in compliance with federal and state laws and meets the SCDHEC and the State Historic Preservation Office (SHPO) mining standards and guidelines concerning the identification and management of historic properties (i.e., sites, buildings, structures, objects, and districts eligible for or listed on the National Register of Historic Places [NRHP]) affected through development activities, in pursuant with the South Carolina Mining Act (SC Code Title 48, Chapter 20, Sections 10-310) and its implementing regulations found in Chapter 89-120(C)(4) of the SC Code of Regulations.

The Fairfield Quarry Tract is in Fairfield County located in north-central South Carolina. The tract consists of 909.72 acres of undeveloped lands located southwest of the junction of Old River Road and Hope Road. The 909.72-acre Fairfield Quarry Tract is a selected portion of a larger 5055.64-acre Weyerhauser Tract property that consists of 14 combined parcels (ID# 110-00-00-004-000). The selected 909.72-acre parcel is the Area of Potential Effect (APE) for the mining operation.

Brockington designed the intensive cultural resources survey to identify and assess all cultural resources in the 909.72-acre APE. Cultural resources investigations of the project tract included archival research and archaeological surveys. There are no standing houses on the tract and no houses older than 50 years in the surrounding area, so no architectural survey was necessary. Prior to fieldwork, archaeologists conducted background research for the NRHP-listed or eligible resources using the ArchSite program maintained by the South Carolina Institute of Archaeology and Anthropology (SCIAA). We found no NRHP-listed or eligible resources within a 0.5-mile (0.8-kilometer [km]) radius of the project tract. However, upon submitting our survey findings to SCIAA, we were informed that the Fairfield Quarry Tract (and a larger portion to the south and west) has been previously surveyed.

In April of 2019, S&ME Inc. (S&ME) conducted a cultural resources identification survey (CRIS) of the proposed approximately 2,200-acre project tract associated with the Weyerhauser Tract (Nagle and Carpini 2019). The Weyerhauser Tract once incorporated the current Fairfield Quarry Tract 909.72-acre APE. This work was performed in anticipation of applying for Site Certification by the South Carolina Department of Commerce (DOC). Results of the investigations included the identification of 18 archaeological sites (38FA618 through 38FA635) and 31 isolated finds. No aboveground resources were identified during the survey. Eight of the 18 sites and 12 isolated finds were identified within the current Fairfield Quarry Tract APE. These include Sites 38FA618 through 38FA625 and Isolated Finds 1 through 12. All 18 sites and 31 isolated finds were recommended not eligible for the NRHP. The SHPO concurred with these recommendations in a letter from SHPO Archaeologist, Keely Lewis, to Kimberly Nagle (S&ME) on April 11, 2019 (see Appendix B). Table 1 presents list of each of the previous sites found during the SM&E survey of the Weyerhauser Tract (containing the current Fairfield Quarry Tract APE).

Table 1 Previous sites found during the SM&E survey of the Weyerhauser Tract (containing the current Fairfield Quarry Tract APE).

Resource	Site Description	NRHP Status
38FA618	Prehistoric lithic scatter	Not Eligible
38FA619	Prehistoric lithic scatter	Not Eligible
38FA620	Prehistoric lithic scatter	Not Eligible
38FA621	Prehistoric lithic scatter; historic glass isolate	Not Eligible
38FA622	Prehistoric lithic scatter; twentieth-century artifact scatter	Not Eligible
38FA623	Prehistoric lithic scatter; historic ceramic isolate	Not Eligible
38FA624	Prehistoric lithic scatter; twentieth-century artifact scatter	Not Eligible
38FA625	Late nineteenth/twentieth-century artifact scatter	Not Eligible
38FA626	Twentieth-century artifact scatter	Not Eligible
38FA627	Twentieth-century ceramic scatter	Not Eligible
38FA628	Prehistoric lithic scatter; nineteenth/twentieth-century artifact scatter	Not Eligible
38FA629	Prehistoric lithic isolate; twentieth-century artifact scatter	Not Eligible
38FA630	Prehistoric lithic scatter	Not Eligible
38FA631	Prehistoric lithic scatter; twentieth-century artifact scatter	Not Eligible
38FA632	Prehistoric lithic scatter; twentieth-century ceramic scatter	Not Eligible
38FA633	Prehistoric lithic scatter; historic ceramic isolate	Not Eligible
38FA634	Middle and Late Archaic lithic scatter	Not Eligible
38FA635	Prehistoric lithic scatter; historic glass isolate	Not Eligible

Without this prior knowledge, Brockington conducted a cultural resource survey of the 909.72-acre APE. Investigators revisited two previously recorded sites (38FA621 and 38FA622) and identified nine new archaeological sites (38FA638 through 38FA646) and 15 isolated finds (Isolate Finds 1 through 15) during the survey. No architectural resources were identified on the tract. Site 38FA638 is a small lithic artifact scatter diagnostic to the Middle Archaic Period. Sites 38FA639, 38FA640, 38FA644, and 38FA645 are small pre-contact lithic artifact scatters that contain nondiagnostic characteristics. Site 38FA642 is also a small pre-contact artifact scatter containing nondiagnostic pottery and lithic debitage. Site 38FA641 represents small scatters of pre-contact and post-contact materials, while 38FA646 is small collection of four historic nails. Lastly, Site 38FA643 is a middle to late, nineteenth through early twentieth-century house or building ruin and contains a brick-lined well. We recommend Sites 38FA638 through 38FA646 not eligible for the NRHP. Table 2 presents the new sites found during the Brockington survey of the Fairfield Quarry Tract.

Table 2 New sites found during the Brockington survey of the Fairfield Quarry Tract.

Resource	Site Description	NRHP Status
38FA638	Middle Archaic lithic scatter	Not Eligible
38FA639	Prehistoric lithic scatter	Not Eligible
38FA640	Prehistoric lithic scatter	Not Eligible
38FA641	Prehistoric lithic scatter; twentieth-century artifact scatter	Not Eligible
38FA642	Prehistoric pottery and lithic scatter	Not Eligible
38FA643	Prehistoric lithic scatter; historic house ruin	Not Eligible
38FA644	Prehistoric lithic scatter	Not Eligible
38FA645	Prehistoric lithic scatter	Not Eligible
38FA646	Late nineteenth/twentieth-century artifact scatter	Not Eligible

Isolates 1 through 15 represent a broad range of pre- and post-contact artifacts that are located across all portions of the property. Due to the low frequency of material at these locales and the lack of cultural features, we recommend all 15 isolated finds not eligible for the NRHP. No further management consideration of these sites or isolated finds is warranted. The proposed mining activities within the APE will have no impact on historic properties. Figure 1 shows the location of the Fairfield Quarry Tract APE and all identified cultural resources within a 0.5-mile (0.8-km) radius on the US Geological Survey (USGS) 1971 *Flint hill, SC* and *Ridgeway, SC* quadrangle maps.

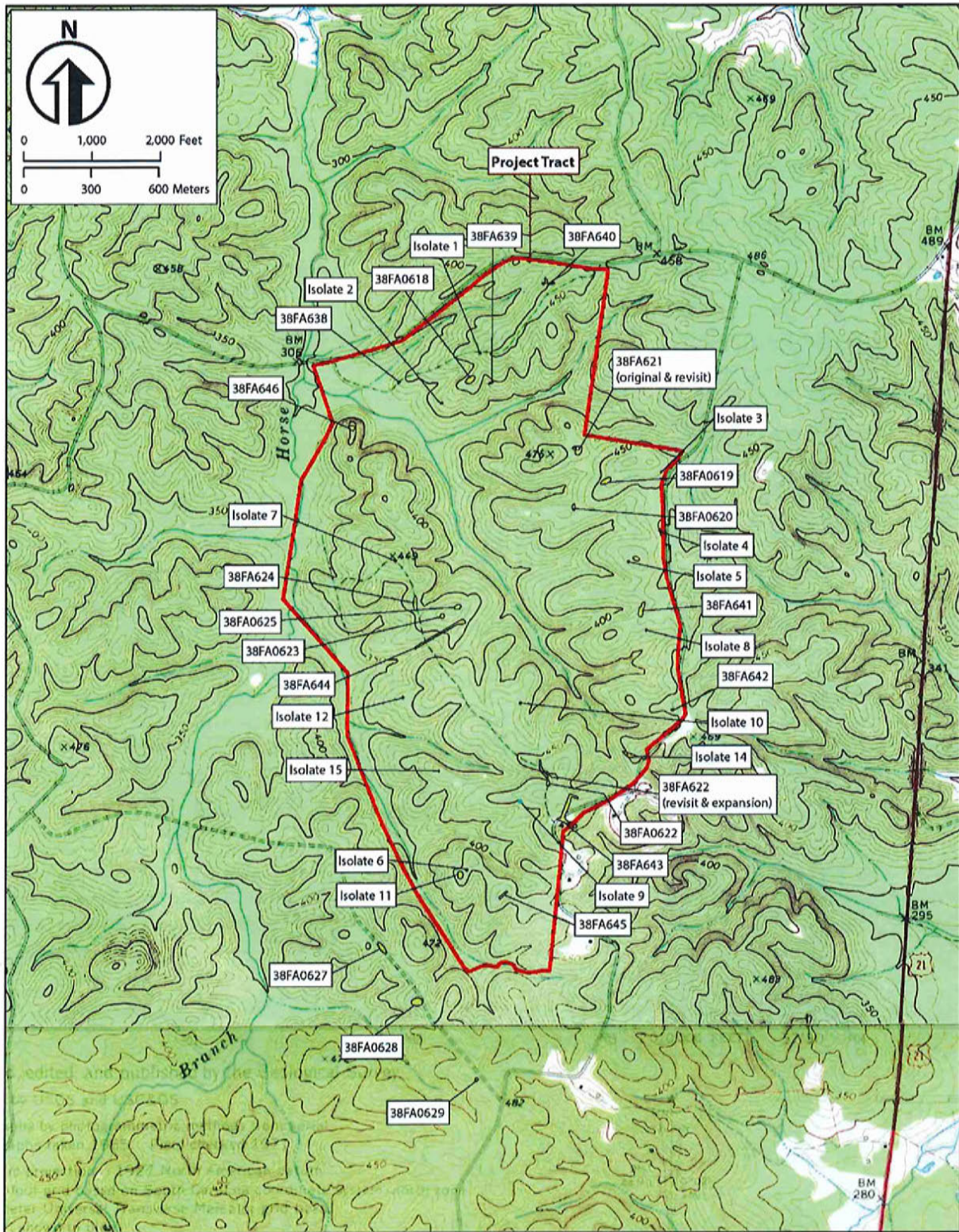


Figure 1 Location of the Fairfield Quarry Tract and all identified cultural resources within a .5-mile (0.8-km) radius (US Geological Survey [USGS] 1971 *Flint Hill, SC* and *Ridgeway, SC* quadrangle maps).

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Fairfield County, South Carolina



Local office

South Carolina Ecological Services

☎ (843) 727-4707

📠 (843) 727-4218

176 Croghan Spur Road, Suite 200
Charleston, SC 29407-7558

<http://www.fws.gov/charleston/>

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Clams

NAME	STATUS
Carolina Heelsplitter <i>Lasmigona decorata</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/3534	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT